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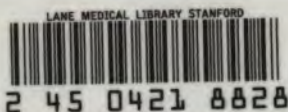
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RESEARCH LABORATORY of the BUCKEL FOUNDATION
DEPARTMENT OF EDUCATION :: :: STANFORD UNIVERSITY

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RESEARCH IN MENTAL DEVIATION AMONG CHILDREN:

A Statement of the Aims and Purposes of the Buckel Foundation

BY

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RESEARCH IN MENTAL DEVIATION AMONG CHILDREN;
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PURPOSES OF THE BUCKEL
FOUNDATION.

Lewis M. Terman.

THE ORIGIN OF THE BUCKEL FOUNDATION.

Through the cooperation of the estate of the late Dr. C. Annette Buckel, of Oakland, a research fellowship has been established at Stanford University for the study of backward children. The circumstances were as follows:

At the time of her death in 1913, Dr. Buckel left an estate, valued at between \$10,000 and \$15,000, in trust to Miss Charlotte Playter, with the request that it be used for the benefit of mentally defective children. After careful consideration of the possible uses to which the endowment might be put, and influenced in part by the advice of Dr. H. H. Goddard, Miss Playter offered to turn it over to Stanford University, for administration by the Department of Education. The offer was accepted by the trustees of the university, who agreed at the same time to supplement the \$500 annual income of the estate by an additional \$500 per year. It was also agreed that the \$1000 thus available should be devoted to "a research fellowship for the psychological and pedagogical study of backward and mentally defective children." The endowment is known as "The C. Annette Buckel Foundation."

Although only a beginning of the work is provided for by the present endowment, it is hoped that the fund may be substantially increased in the near future so as to make possible a thoroughgoing and constructive study of mental deviation among children in its psychological, educational, medical, and social aspects. The following statement of the aims and purposes of the Foundation has been prepared for the purpose of setting forth the need of the kind of research which it is proposed to undertake and to indicate the methods by which some of the problems may be approached.

DESIRABLE SCOPE OF THE WORK

Five lines of research.

The specific purpose of the original Foundation was research with backward and defective children. It will be readily understood, however, that mental deficiency can not be advantageously studied without reference to other types of mental deviation and to the laws of normal mental development. It is believed that the purpose of the donor can best be served by simultaneous research with the following five classes: (1) backward and feeble-minded children; (2) delinquent or potentially delinquent children; (3) nervous, morbid, or psychopathic children; (4) children of superior ability; and (5) normal children.

1. BACKWARD AND FEEBLE-MINDED CHILDREN.

Amount of retardation. Statistics collected in hundreds of cities in the United States show that between a third and a half of the school children fail to progress through the grades at the expected rate; that from 10 to 15 per cent are retarded two years or more; and that from 5 to 8 per cent are retarded at least three years. Studies conducted at Stanford University show that the amount of retardation in even the better California school systems fully equals the above figures. Of the 400,000 school children in California probably 25,000 are three or more grades retarded, and probably more than 10 per cent of the \$12,000,000 annually expended for tuition in the schools of the State is devoted to *repeated* instruction.

Restoration cases. Of course only a relatively small proportion of this retardation is due to actual mental deficiency. Much of it can be traced to ill-advised methods of school organization, especially to the lack of attention to the peculiarities and needs of individual children. A vast amount of loss results also from the neglect of children's physical handicaps. Where poor pedagogy and bad hygiene are at fault the retardation may often be entirely overcome. These are *restoration cases*. One of the most important phases of the work of the Foundation will always be to aid schools in

discovering cases of accidental or spurious retardation and to show how such children may be restored to normality. It is still more important to show how retardation of this kind may be prevented. The Foundation was not established on the false notion that the really feeble-minded could be made normal. The best methods of pedagogy are powerless to accomplish such a result. The restoration cases belong to a different group, and their condition is one which makes the strongest appeal.

The mentally slow. There is another group of children, also not feeble-minded in the ordinary sense, whose mental endowment is such that they cannot profit normally from the usual type of school instruction. They may have a reasonable amount of intelligence along certain lines, but as a rule they cannot master the abstractions of the upper grammar grades or the high school. Probably two or three per cent of our school children belong to this class. Such children should be segregated in small classes, where they can be given the kind of training which will fit their needs and special abilities.

Special classes few and ineffective. The special classes which a few cities are beginning to establish for this purpose have, for two reasons, contributed little to a solution of the problem. In the first place, they are too few. They probably enroll less than one-tenth of the children who need special educational opportunities. Many of the cities of California are far behind certain eastern schools in this respect. In the second place, the special schools which exist are in many cases relatively inefficient. Usually they are made the dumping ground for all kinds of troublesome cases,—the feeble-minded, the physically defective, the merely backward, psychopathics, truants, and incorrigibles. Without scientific diagnosis and classification of such children, the educational work of the special class can only proceed in the dark.

The mentally defective. But when due allowance has been made for the retardation due to physical handicaps and to ordinary dullness, there remains a considerable amount which can be traced to mental deficiency. The most reliable studies indicate that between one and two per cent of the

children enrolled in public schools are feeble-minded. The higher grades of these may be designated as borderline cases. Borderliners will be able to "float" in some sort of fashion in the social and industrial world, but as a rule they will never develop intelligence or responsibility beyond that of a normal child of twelve or thirteen years.

The feeble-minded a social menace. Whatever the exact per cents of various grades of defectives may prove to be, it is clear that society has few tasks more important than that of identifying the feeble-minded and providing for their proper treatment. There is a growing conviction that the State will be compelled, in self-defense, to provide institutional care for all the seriously feeble-minded throughout the reproductive period. Painsstaking studies of family histories, like that of Dr. Goddard of "The Kallikak Family," and like those of Dr. Davenport of "The Hill Folk" and "The Nam Family," show that when the feeble-minded are allowed to reproduce the result is certain to be a spawn of feeble-mindedness, criminality, alcoholism, pauperism, and other types of degeneracy.

Whether society will consent to undertake restraint with the higher borderline cases remains to be seen; but in regard to a majority of those who are of imbecile and moron* grade there should be no difference of opinion. Disregarding entirely the questionable cases, there are at least ten feeble-minded persons at large in California to one who is confined in our state institution for defectives. Their cost to the State, directly and indirectly, is probably greater than the total expenditure for public education.

2. DELINQUENCY.

Relation of delinquency to mental deficiency. These are two forms of mental deviation which cannot profitably be studied separately. The discovery of the close relation existing between them marks one of the greatest advances of applied psychology. Though it had long been recognized that

**Morons* are the high-grade defectives, technically those whose mental development will never go beyond that of an average child of 9 to 12 years. *Imbeciles* are those whose "mental age" at maturity will correspond to that of a normal child of 3 to 7 years. *Idiots* never exceed the mental level of 3 years.

delinquents are often subnormal, the real facts were not disclosed until improved methods of psychological diagnosis came to be generally employed. The feeble-minded delinquents are usually of the moron grade, and this level of deficiency is not recognizable by casual inspection or even by ordinary medical examination. Standardized intelligence tests are necessary, and these did not exist until the Binet-Simon scale of 1908 was given to the world. In the last five or six years, however, numerous psychological tests have demonstrated, beyond any possibility of doubt, that at least twenty-five per cent of delinquents are feeble-minded. The extended investigations of Dr. Goddard, Dr. Ordahl, Dr. Haines, Dr. von Klein-Schmid, Dr. Mabel Fernald, Dr. Grace Fernald, Dr. Weidensall, and Mr. Williams, to say nothing of numerous minor investigations, are conclusive on this point.*

Not all delinquency explained by mental deficiency. There remains, however, a large amount of delinquency which is not due to feeble-mindedness. Many other causes operate to bring about moral deviation, and it is to be hoped that the work of the Buckel Foundation may be extended to include these also. Long and carefully planned researches will be necessary in order to identify and analyze those peculiarities of emotion, volition, and temperament which make for moral abnormality. Psychological studies of potential delinquents among school children would doubtless prove even more valuable than the tests of juvenile court and reform school cases. It appears that about ninety per cent of the latter have displayed a tendency toward truancy or incorrigibility during the school period.

3. PSYCHOPATHIC DEVIATES.

Importance of preventive mental hygiene. The number of persons who at some time in life become insane is as large as the number of feeble-minded. Many others who do not develop actual insanity are possessed of such marked psychopathic traits that they can hardly be considered normal. It

*For a summary of some of the most important findings in this line see the 1914 annual report of the Whittier, California, State School, containing preliminary report by Williams and Terman of the psychological survey of the inmates in that institution.

must not be forgotten that all the insane and semi-insane were only a little while ago pupils in the public schools and that thousands of children now in the schools are destined to fall victims to some form of mental deterioration. Thus far, medical psychology has confined itself almost entirely to the study of the adult insane. But this phase of medicine, like all others, must turn its attention more and more to prevention. The best time to cure mental disorder is before it begins. Researches must be undertaken which will lead to a better understanding and a more rational educational treatment of children who are predisposed to hysteria, psychasthenia, nervousness, or other psychopathic tendencies. Expert opinion inclines more and more to the belief that at least half of the insanities and most of the minor mental disorders will be found preventable when the laws of mental and physical hygiene are better understood and applied. There is urgent need of psychological researches which will aid in the identification of psychopathic children and throw light on the mental mechanisms involved in the predisposition to various types of mental disorder.

SUPERIOR CHILDREN.

While research with superior children was not a specific aim of the original Foundation, a little thought will make it clear that the study of any given type of mental deviation is bound to involve a consideration of the opposite type. Inferior, normal, and superior mentality can be psychologically understood only with reference to one another, and any improved method for the study of one grade of mentality necessarily throws light on all other grades.

The social importance of superior ability. It is hardly necessary to dwell on the fact that psychological research with superior children has also great value apart from the light it incidentally throws on other grades of mental ability. Whether civilization moves on and up depends most on the advances made by creative thinkers and leaders in science, politics, art, morality, and religion. Moderate ability can follow, or imitate, but genius must show the way. Society there-

fore loses tremendously when the child of exceptionally superior endowments fails to realize his highest potentialities.

Talented children often misunderstood. That children of superior talent are likely to be misunderstood in the schools is a charge which has often been made but which has hitherto been little investigated by scientific methods. Data which we have been collecting for several years at Stanford University, on children of exceptional intelligence, show that the criticism just quoted is not without foundation. We have tested altogether nearly one hundred children who were as much above average intelligence as moron defectives are below. The large majority of these were found located in the school below the grade warranted by their intellectual level. The dull children are allowed to become retarded, but the exceptionally bright are rarely given the advantage which is due their superior intelligence. Psychological tests prove that superiority of any given degree occurs just as frequently as inferiority of corresponding degree, but the amount of school retardation is ordinarily about twelve times the amount of school acceleration. Even genius languishes when kept overlong at tasks that are too easy. Our data show that teachers sometimes fail entirely to recognize exceptional superiority in a pupil, and the exact degree of such superiority is nearly always estimated incorrectly. Clinical psychology and experimental pedagogy will nowhere find more fruitful application than in this field.

5. NORMAL CHILDREN.

To understand exceptional children we must understand the development of normal children. Researches in mental deviation must rest upon a broad foundation of knowledge regarding the laws of normal mental development. These are far from perfectly understood. Valuable as the Binet intelligence scale has proved in this field, it is only a beginning. It will be necessary to work out several additional scales for the measurement of general mental capacity, and each of these will require the combined efforts of several workers for a number of years. Many other test series must be devised for

the study of special mental capacities. It will be necessary, before we shall be in position to give a complete mental diagnosis of a single child, to have accurate knowledge of the development year by year of all the separate mental functions in normal children as well as in the various grades of defectives. Until then, prediction as to possible future development and advice as to the educational and social treatment demanded in a given case will be largely guess-work. A child's mental make-up is no less complicated than his physical.

METHODS OF APPROACH.

The need of research. The problems relating to exceptional children are so complex that the most important function of the Foundation will always be that of carrying on researches and training research workers. Educational and social efforts in behalf of such children will have value exactly in proportion as they are guided by scientifically established facts and principles. Sentimental enthusiasm, visionary theories, and good intentions are always dangerous substitutes for scientific guidance, and in this field doubly so.

There is practically no limit to the amount of research needed, as almost everything remains to be done. Methods of diagnosis and treatment of exceptional children are still primitive and insecure. The position of clinical psychology today is analogous to that of clinical medicine fifty or a hundred years ago. To the extent that scientific medical diagnosis has taken the place of the look-and-guess method we are indebted to the patient researches of hundreds of workers. Accurate methods of psychological diagnosis must develop in the same way.

But psychological diagnosis is not, of course, an end in itself. Along with researches in diagnosis must come investigations of the modifiability of mental deviations. It is necessary to find out what may be done for retarded children by improved methods of instruction, and the working out of such methods will be an important part of the Foundation's work.

The work demands cooperation. The field is one in which research makes unusual demands upon time and labor.

One person working alone can accomplish relatively little. The epoch-making researches of Dr. Goddard, for illustration, have required the concentrated efforts of a large corps of workers over a period of several years. The Binet-Simon scale, which has proved so fruitful in the study of exceptional children, was the culmination of fifteen years of research in which Binet was aided by numerous co-workers.

The extension of the usefulness of the Buckel Foundation hinges, accordingly, on the possibility of securing funds for the organization of a department of cooperative research. We have tried to show that such a department can most profitably carry on investigations along several lines simultaneously. If the work is narrowly conceived the results will be fragmentary and of limited value. The problem should be studied in all its aspects,—psychological, educational, sociological, and medical.

ADDITIONS NEEDED TO THE PRESENT FOUNDATION

1. *Fellowships.* The work to be done calls for two or three additional fellowships with an annual value of about \$1000 each. If there were three fellowships altogether, it would be possible to devote one primarily to mental deficiency, one to delinquency, and one to other psychopathic deviations, such as insanity and allied disorders. The last named fellowship would, of course, need to be placed under the immediate control of the medical school.* If a fourth should become available it could profitably be devoted to psychological and pedagogical researches with exceptionally gifted children. It is possible, indeed, that a fellowship in this field would prove the most valuable of all.

2. *Assistants.* Besides the research fellows, at least two assistants will be indispensable if the scope of the work is to be greatly enlarged. One is needed for making stenographic records of tests, to look after the record files, and to attend to other clerical matters. Another would be equally

*The ultimate success of whatever work the Foundation undertakes will depend in no small degree upon the friendly cooperation of the departments of psychology, medicine and education. Such cooperation is already assured.

necessary to aid in the collection and statistical treatment of data. This need is perhaps the most urgent of all. Competent assistants could be had at about \$500 each, per year, provided opportunity were given them to carry on a certain amount of advanced study in the university.

3. *Field workers.* In order to collect data on the heredity of exceptional children and on the economic, social, and educational influences which have helped to make them what they are, it will be necessary to provide field workers. At least one should be available, and preferably two. The cost of each, including necessary travelling and incidental expenses, will be from \$1200 to \$1500 per year.

4. *Research professorship.* When the work of the Foundation has attained the proportions above indicated it will be highly desirable to have the full time of one professor as director of research. The responsibility of directing the work so far has fallen chiefly to the writer, who happens to be the member of the department most closely identified with the field of research represented by the Foundation. A fairly large expansion of the work can be cared for under the present arrangement, but if the Foundation is to fulfill its mission, it will ultimately be necessary to have all the time of one professor. The encouraging attitude which the university administration has thus far shown seems to justify the hope of cordial cooperation to that end.

A hospital school. Many other expansions would be desirable if unlimited funds were available. It would be advantageous if we had a hospital school, or a permanent home, where various types of exceptional children could be retained for the two-fold purpose of (1) research with individual cases, and (2) the training of special teachers for backward children in the schools. On the other hand, the financial responsibility which would be incurred by such a departure would be very great. This phase of the work will probably have to be omitted unless the income of the Foundation can be increased to something like \$20,000 per year.

Cooperation with public schools and state institutions. Fortunately a permanent home for defectives, while desirable

from many points of view, is by no means indispensable for carrying on the research which has been planned. The alternative is to secure the cooperation of the public schools. Every school has its exceptional children, and school officers will welcome any contribution the University can make toward a better understanding of such cases. The various state institutions for the feeble-minded, for criminals, and for juvenile delinquents offer rich mines of material which would doubtless be made accessible to advanced research students bearing the proper credentials. The same is true of juvenile courts, homes for dependents, etc. Indeed, the very kinds of research for which the greatest need exists at present are those which can be carried on in connection with the public schools or state institutions much more advantageously even than in a small hospital school under the direct control of the university. The latter could supply but a limited number of cases, and of selected types, while the research most needed requires many subjects of many types. The standardization of mental tests, for example, can only be accomplished by work with normal children.

Another advantage to be derived from carrying on the work largely in connection with public schools and other already existent institutions is that in this way the influence of the Foundation would become more rapidly disseminated throughout the state. Every piece of work done away from the university would create a demand for further help. As an illustration of this, the preliminary survey which Mr. Williams made at the Whittier State School for Boys, a little over a year ago, has already led to the establishment, by Superintendent Nelles, of a research department in that institution, and the tests and surveys which he has made in public schools have led to the employment of special teachers for backward children. As the fellowships increase in number, such connections with the schools can be made very intimate, and mutually advantageous.

The training of leaders. It is of course true that without a hospital school for defectives under the control of the university it will not be possible to do much in the way of training teachers for special classes. The Foundation is already

doing something in this line, but to undertake such work on any considerable scale would require extensive financial resources. Fortunately, there are other places where the rank and file of special teachers can receive appropriate training for their work. The aim of the Buckel Foundation should be, for the present at least, research and the training of leaders. In no other way can a small income be made to yield such large returns. To send out into the field a single well-trained young man or woman means not only a lifetime of enthusiastic service on the part of that individual, but also the inauguration of an endless chain of personal influences which will acquire breadth and force as time goes on.

The plan elastic. The plan we have outlined does not call for a fixed sum as a prerequisite to enlarged undertakings. Any amount from \$500 to \$25,000 per year can be made to yield returns in proportion to the investment. An addition of \$6000 or \$8000 to the annual income would go far toward making possible the realization of the main purposes for which the Foundation was established.

SKETCH OF THE FIRST YEAR'S WORK (1914-1915).

The work of the Buckel Foundation was formally begun with the appointment of a research fellow, which took effect on August 1, 1914. The first appointee was Mr. J. Harold Williams, who took his master's degree in the department of Education at Stanford University in 1914.

A large room was set aside for laboratory purposes, and this was later divided into two small laboratories and a waiting room. The furnishings include desks, chairs, tables, instrument cases, book cases, filing cabinets, drawing tables, etc. The laboratory has been provided with the apparatus and material necessary for physical and mental tests, including scales, stadiometer, dynamometer, kymograph, Marey tambour, spirometer, tachistoscope, metronome, head calipers, anthropometric tape, target test, vision tests, and an assortment of printed forms for use in intelligence testing. The value of the equipment is approximately \$800.

A nucleus has been provided for a special library of documents and reports bearing on mental deficiency and allied problems. More than 650 such volumes have already been collected, besides reprints of many valuable researches. Numerous charts have also been made.

During the first year 450 children were examined. Demonstration testing and surveys of backward children were made in San Jose, Fresno, Redwood City, and Salt Lake City. Some of the results of these surveys were published in *The Psychological Clinic*, *The Training School Bulletin*, *The Journal of Criminal Law and Criminology* and in Professor Cubberley's *Report of the Survey of the Salt Lake City Schools*.

The first year was devoted chiefly, however, to a study of the intelligence of delinquent boys. Nearly 300 tests were made in the Whittier State School and about 65 others in the California George Junior Republic at Chino and in the juvenile courts of San Diego and Los Angeles. The preliminary report of the Whittier survey, published as Bulletin Number 1 of the Buckel Foundation, was reviewed so favorably in psychological and educational journals that requests for copies quickly exhausted the supply. Data are at present being collected on potential delinquents in the schools, a type of investigation which it is hoped will throw some light on the methods by which delinquency may be prevented.

